

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
1 April 2004 (01.04.2004)

PCT

(10) International Publication Number  
WO 2004/027459 A3

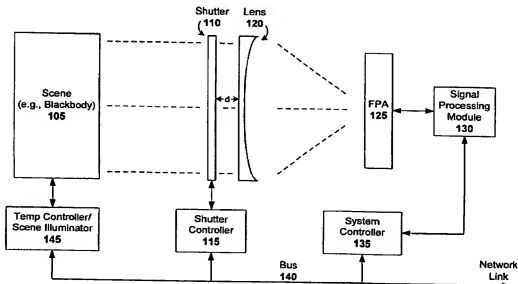
- (51) International Patent Classification: H04N 5/225, 9/04, 5/217, 5/222
- (74) Agents: MALONEY, Nell, F. et al.; Maine & Asmus, PO Box 3445, Nashua, NH 03061-3445 (US).
- (21) International Application Number: PCT/US2003/027034
- (81) Designated States (national): AE, AG, AL, AM, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), DE, DK (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 28 August 2003 (28.08.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/412,377 20 September 2002 (20.09.2002) US
- (71) Applicant (for all designated States except US): BAE SYSTEMS INFORMATION AND ELECTRONIC SYSTEMS INTEGRATION INC [US/US]; 65 Spit Brook Road, Nashua, NH 03061 (US).
- (72) Inventors; and
- (73) Inventors/Applicants (for US only): MURPHY, Robert, H. [US/US]; 34 Seven Bridge Road, Lancaster, MA 01523 (US). MILLER, Christopher, R. [US/US]; 5 Ashwood Road, Acton, MA 01720-4401 (US).
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: FRONT LENS SHUTTER MOUNT FOR UNIFORMITY CORRECTION



(57) Abstract: An imaging system comprising a lens, a detector array (e.g., focal plane array), a signal processing module and a shutter, wherein the shutter is positioned in front of the lens (between the lens and the scene being imaged). This front lens shutter mount configuration allows offset correction to compensate for internal radiant flux and other deficiencies associated with conventional systems.

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(88) Date of publication of the international search report:**

13 May 2004

## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US03/27034

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04N 5/225, 9/04, 5/217, 5/222  
 US CL : 348/207.99, 241, 370, 374, 375

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 348/207.99, 207.1, 211.99, 241, 243, 370, 373, 374, 375

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,061,092 A (BAKHLE et al.) 09 May 2000 (09.05.2000), Column 3, lines 63 - 67;	10 - 13
---	Column 4, lines 12 - 25; Column 5, lines 23 - 42; Column 7, lines 14 - 27.	-----
Y		1-9, 14-20
Y	US 5,517,243 A (KUDO et al.) 14 May 1996 (14.05.1996), Column 4, lines 52 - 63;	1 - 9, 15 - 20
	Column 5, lines 57 - 65; Column 6, lines 13 - 63.	
Y.	US 5,739,847 A (TRANCHITA et al.) 14 April 1998 (14.04.1998), Column 2, lines 31 - 42.	6, 14, 19
A	US 6,208,393 B1 (BAWOLEK et al.) 27 March 2001 (27.03.2001), see entire document.	1-20



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"B" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"Z"

document member of the same patent family

Date of the actual completion of the international search

21 February 2004 (21.02.2004)

Date of mailing of the international search report

12 MAR 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 Facsimile No. (703)305-3230

Authorized officer

Wendy R. Garber

Telephone No. 703/306-0347

